## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.      (currently amended)  An artificial intelligence system for the analysis of peptide nucleic acid (PNA) ~~array~~ microarray hybridization information related to an individual patient for diagnosing a physiological condition of said patient and for recommending treatment for said patient, comprising:

(i)      a user facility comprising a peptide nucleic acid (PNA) microarray having a surface comprising PNA probes comprising about 25 to about 70 bases in length tethered to said microarray surface, and an optical scanning system configured to collect hybridization information from said PNA microarray, said hybridization information comprising gene expression information related to said patient, said user facility being configured to provide gene expression information;

(ii)      a Web server that communicates with at least one user facility, configured to perform a group of functions comprising receiving and transmitting ~~hybridization~~ gene expression information related to said patient, supporting data analysis, and providing security and business functions, wherein said ~~hybridization~~ gene expression information related to said patient comprises hybridization information collected from said PNA microarray ~~comprising~~ contacted with a clinical sample related to said patient,

(iii)      a database server that is configured to perform a group of functions comprising storing data comprising hybridization profiles, clinical information associated with hybridization profiles, personal medical history information related to the patient, treatments suitable for diagnosed conditions related to hybridization profiles, data related information, and statistical information associated with hybridization profiles; and

(iv)      an application server that is configured to recognize a diagnostic master user corresponding to a user facility and a diagnostic user corresponding to an individual patient associated with said diagnostic master user, to facilitate information exchange between the Web server and the database server, to analyze said hybridization information through the use of a rate algorithm comprising detecting high

gene expression levels, detecting low gene expression levels, and relating said gene expression levels with patient family history to determine a likelihood of developing a specific disease, and to perform a group of functions comprising:

~~statistical comparisons and analysis between hybridization information related to the patient received by the Web server, hybridization parameters, personal medical history information supplied by the database server,~~

diagnosing a physiological condition of the patient suggested by the ~~statistical comparisons and analysis~~ rate algorithm, and

recommending methods of treatment for said patient based on the diagnosed physiological condition.

2. (previously presented) The system of claim 1, wherein the group of functions performed by said Web server further comprises functions selected from the group consisting of product information, product ordering, company information, statistical summary of patient database, request to the application server, and security.

3. (previously presented) The system of claim 1, wherein the data stored by the database server further comprises data selected from the group consisting of genetic pattern database data for chip ID, patient genetic pattern database data, and statistical data summary data.

4. (previously presented) The system of claim 1, wherein the application server constructs at least one query for the database server, and performs at least one statistical comparison between hybridization parameters received by the Web server and hybridization parameters supplied by the database server.

5. (previously presented) The system of claim 4, wherein the application server is further configured to perform functions selected from the group of functions consisting of database query for chip ID genetic pattern, database query for statistical data summary, pattern match statistical processing, and results output.

6.	(previously presented)  The system of claim 1, wherein said artificial intelligence system further comprises an operations server.

7.	(previously presented)  The system of claim 6, wherein the operations server comprises functions selected from the group consisting of order management, billing management, and order tracking.

8.	(previously presented)  The system of claim 1, wherein the user facility is linked to said artificial intelligence system through encrypted network connections.

9.	(previously presented)  The system of claim 8, wherein the user facility is a remote user facility.

10.	(previously presented)  The system of claim 8, wherein the user facility is a local user facility.

11.	(previously presented)  The system of claim 8, wherein the user facility is selected from the group consisting of a hospital, a clinic, a research facility, a business, and a non-profit organization.

12.	(currently amended)  The system of claim 8, wherein the user facility comprises:

~~(i)	an optical scanning system to collect hybridization signals from said PNA microarray,~~

(~~ii~~ i)	an image processing system to convert optical data from the optical scanning system into a set of hybridization parameters,

(~~iii~~ ii)	a computer linked to a network; and

(~~iv~~ iii)	a user interface to display data related information.

13.	(previously presented)  The system of claim 12, wherein the network is the Internet.

14.    (previously presented)  The system of claim 12, wherein the user interface further comprises functions selected from the group of functions consisting of manipulating data, searching data, analyzing data, and displaying data.

15.    (previously presented)  The system of claim 14, wherein the user interface further comprises displayed information selected from the group consisting of user information, clinical sample information, testing information, clinical test results report, research and development sample information, chip information, results report for biopharma chip, therapeutic choices, and billing information.

16.    (previously presented)  The system of claim 12, wherein the data related information is selected from the group consisting of hybridization information, patient information, statistical information, clinical information, medical information, diagnosis information, treatment information, biological information, product information, and company information.

17.    (previously presented)  The system of claim 12, wherein the user facility further comprises functions selected from the group consisting of genetic pattern processing, request for pattern match for chip ID, and report generation.

18.    (previously presented)  The system of claim 8, wherein the user facility comprises:

(i)    a computer linked to a network; and

(ii)    a user interface to display data related information.

19.    (previously presented)  The system of claim 18, wherein the data related information is selected from the group consisting of hybridization information, patient information, statistical information, clinical information, medical information, diagnosis information, treatment information, biological information, product information, and company information.

20.     (previously presented)  The system of claim 1, comprising a system architecture based on a shared processing functionality between at least one remote location and at least one central data processing facility.

21.     (currently amended)  A method for diagnosing a physiological condition of an individual patient and for recommending treatment for said patient, comprising:

(i)      providing a patient identifier related to said patient,

(ii)     providing a peptide nucleic acid (PNA) microarray having a surface comprising PNA probes comprising about 25 to about 70 bases in length tethered to said microarray surface;

(iii)    collecting hybridization information from said PNA microarray related to said patient and said patient identifier, wherein said hybridization information related to said patient comprises gene expression hybridization information collected from said PNA microarray comprising PNA probes comprising about 25 to about 70 bases in length tethered to said microarray surface contacted with a clinical sample related to said patient,

(iii iv) transmitting said hybridization information and said patient identifier information to a central data processing facility,

(iv v)   analyzing said hybridization information to generate a hybridization profile related to said patient,

(v vi)   comparing said hybridization profile to stored hybridization parameters, and to stored patient medical history information and clinical observations related to said patient to provide analyzed data,

(v vii)  diagnosing a probable physiological condition suggested by said analyzed data through the use of artificial intelligence a rate algorithm comprising detecting high gene expression levels, detecting low gene expression levels, and relating said gene expression levels with patient family history to determine a likelihood of developing a specific disease for diagnosing a physiological condition of said patient,

(vi viii) recommending methods of treatment for said patient based on the diagnosed physiological condition, patient personal medical history and clinical observations, and

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(vii ix) updating said stored hybridization parameters and said stored patient medical history.

22.     (canceled)

23.     (currently amended) A method for diagnosing a physiological condition of an individual patient and for recommending treatment for said patient, comprising:

(i)      providing a patient identifier related to said patient,

(ii)     providing a proteomics chip comprising a substrate to which protein probes are bound:

(iii)    collecting information from said proteomics chip related to said patient;

(iv)     transmitting said proteomics chip information and said patient identifier information to a central data processing facility;

(v)      analyzing said information to generate a proteomics profile for said patient;

(vi)     comparing said proteomics profile to stored proteomics parameters, and to stored patient medical history information and clinical observations related to said patient to provide analyzed data;

(vii)    diagnosing a probable the physiological condition suggested by said analyzed data through the use of artificial intelligence, wherein said artificial intelligence comprises application of a rate algorithm adapted to detect changes between said compared parameters and said profile comprising detecting high protein levels, detecting low protein levels, and relating said protein levels with patient family history to determine a likelihood of developing a specific disease for diagnosing a physiological condition of said patient,

(viii)   recommending methods of treatment for the patient based on the diagnosed physiological condition, patient personal medical history and clinical observations, and

(ix)     updating said stored proteomics parameters and said stored patient medical history.

24. (canceled)

25. (currently amended) A method for diagnosing a physiological condition of a living organism and for recommending treatment for said living organism, comprising:

(i) providing an identifier related to said living organism,

(ii) providing a peptide nucleic acid (PNA) microarray related to said living organism and said identifier, comprising PNA probes comprising about 25 to about 70 bases in length tethered to a microarray surface;

(iii) collecting hybridization information from said PNA microarray related to said living organism and said identifier,

(iv) transmitting said hybridization information and said identifier information to a central data processing facility,

(v) analyzing said hybridization information to generate a hybridization profile related to said living organism,

(vi) comparing said hybridization profile to stored hybridization parameters, disease models and living organism profiles to provide analyzed data,

(vii) determining a probable physiological condition suggested by said analyzed data through the use of ~~artificial intelligence~~ a rate algorithm adapted to detect changes between said compared parameters and said profile comprising detecting high gene expression levels, detecting low gene expression levels, and relating said gene expression levels with stored hybridization parameters, disease models, and living organism profiles to determine a likelihood of developing a specific disease for diagnosing a physiological condition of said living organism, and

(viii) recommending methods of treatment for said living organism based on the diagnosed physiological condition, disease models, and living organism profiles, and

(ix) updating said stored hybridization parameters and living organism profiles.

26.    (previously presented)  The method for diagnosing a physiological condition of an organism and for recommending treatment for said organism of claim 25, wherein the living organism is an animal.

27.    (previously presented)  The method for diagnosing a physiological condition of an organism and for recommending treatment for said organism of claim 25, wherein the living organism is a plant.

28.    (currently amended)  A method for diagnosing a physiological condition of ~~an~~ living organism and for recommending treatment for said living organism, comprising:

(i)    providing an identifier related to said living organism,

(ii)    providing a proteomics chip comprising a substrate to which protein probes are bound:

(iii)    collecting information from said proteomics chip related to said living organism,

(iv)    transmitting said proteomics chip information and said identifier information to a central data processing facility,

(v)    analyzing said information to generate a proteomics profile for said living organism;

(vi)    comparing said proteomics profile to stored proteomics parameters, and to stored disease models and living organism profiles to provide analyzed data,

(vi)    determining a probable ~~the~~ physiological condition suggested by said analyzed data through the use of artificial intelligence, wherein said artificial intelligence comprises application of a rate algorithm adapted to detect changes between said compared parameters and said proteomics profile comprising detecting high protein levels, detecting low protein levels, relating said protein levels with stored disease models and living organism profiles to determine a likelihood of developing a specific disease for diagnosing a physiological condition of said living organism,

(viii) recommending methods of treatment for the living organism based on the diagnosed physiological condition, disease models, and living organism profiles, and

(ix) updating said stored proteomics parameters and living organism profiles.

29. (previously presented) The method for diagnosing a physiological condition of an organism and for recommending treatment for said organism of claim 28, wherein the living organism is an animal.

30-32. (canceled)